



Jamie M. Coleman  
Regulatory Affairs Director  
Vogtle 3 & 4

7825 River Road  
Waynesboro, GA 30830  
706-848-6926 tel

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Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Unit 4  
ITAAC Closure Notification on Completion of ITAAC 2.2.01.05.i [Index Number 98]

Ladies and Gentlemen:

In accordance with 10 CFR 52.99(c)(1), the purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of the completion of Vogtle Electric Generating Plant (VEGP) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.2.01.05.i [Index Number 98]. This ITAAC confirms that the Containment System (CNS) equipment identified as seismic Category I or Class 1E in the Combined License (COL) Appendix C, Table 2.2.1-1 are designed and constructed in accordance with applicable requirements.

The closure process for this ITAAC is based on the guidance described in Nuclear Energy Institute (NEI) 08-01, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52," which was endorsed by the NRC in Regulatory Guide 1.215.

This letter contains no new regulatory commitments. Southern Nuclear Operating Company (SNC) requests NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99.

If there are any questions, please contact Kelli Roberts at 706-848-6991.

Respectfully submitted,

A handwritten signature in black ink that reads "Jamie Coleman". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Jamie M. Coleman  
Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4  
Completion of ITAAC 2.2.01.05.i [Index Number 98]

JMC/JRB/sfr

cc: Regional Administrator, Region II  
Director, Office of Nuclear Reactor Regulation (NRR)  
Director, Vogtle Project Office NRR  
Senior Resident Inspector – Vogtle 3 & 4

**Southern Nuclear Operating Company  
ND-23-0163  
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 4  
Completion of ITAAC 2.2.01.05.i [Index Number 98]**

### **ITAAC Statement**

#### **Design Commitment:**

5. The seismic Category I equipment identified in Table 2.2.1-1 can withstand seismic design basis loads without loss of structural integrity and safety function.

6.a) The Class 1E equipment identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

6.d) The non-Class 1E electrical penetrations identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of containment pressure boundary integrity.

#### **Inspections, Tests, Analyses:**

i) Inspection will be performed to verify that the seismic Category I equipment and valves identified in Table 2.2.1-1 are located on the Nuclear Island.

ii) Type tests, analyses, or a combination of type tests and analyses of seismic Category I equipment will be performed.

iii) Inspection will be performed for the existence of a report verifying that the as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

i) Type tests, analyses, or a combination of type tests and analyses will be performed on Class 1E equipment located in a harsh environment.

ii) Inspection will be performed of the as-built Class 1E equipment and the associated wiring, cables, and terminations located in a harsh environment.

i) Type tests, analyses, or a combination of type tests and analyses will be performed on non-Class 1E electrical penetrations located in a harsh environment.

ii) Inspection will be performed of the as-built non-Class 1E electrical penetrations located in a harsh environment.

#### **Acceptance Criteria:**

i) The seismic Category I equipment identified in Table 2.2.1-1 is located on the Nuclear Island.

ii) A report exists and concludes that the seismic Category I equipment can withstand seismic design basis dynamic loads without loss of structural integrity and safety function.

iii) The as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

i) A report exists and concludes that the Class 1E equipment identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

ii) A report exists and concludes that the as-built Class 1E equipment and the associated wiring, cables, and terminations identified in Table 2.2.1-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses.

i) A report exists and concludes that the non-Class 1E electrical penetrations identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of containment pressure boundary integrity.

ii) A report exists and concludes that the as-built non-Class 1E electrical penetrations identified in Table 2.2.1-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses.

### **ITAAC Determination Basis**

This ITAAC requires that inspections, tests, and analyses be performed and documented to ensure the Containment System (CNS) equipment identified as seismic Category I or Class 1E in the Combined License (COL) Appendix C, Table 2.2.1-1 (the Table) are designed and constructed in accordance with applicable requirements.

#### **i) The seismic Category I equipment identified in Table 2.2.1-1 is located on the Nuclear Island**

To assure that seismic Category I equipment can withstand seismic design basis loads without loss of safety function, all the equipment in the Table is designed to be located on the seismic Category I Nuclear Island. In accordance with Equipment Qualification (EQ) Walkdown ITAAC Guideline (Reference 1) and Equipment Qualification (EQ) Installation Documentation Guideline (Reference 13), an inspection was conducted of the CNS to confirm the satisfactory installation of the seismically qualified equipment. The inspection included verification of equipment make/model/serial number and verification of equipment location (Building, Elevation, Room). The EQ As-Built Reconciliation Reports (EQRR) (Reference 2) identified in Attachment A documented the results of the inspection and concluded that the seismic Category I equipment is located on the Nuclear Island.

#### **ii) A report exists and concludes that the seismic Category I equipment can withstand seismic design basis dynamic loads without loss of structural integrity and safety function.**

Seismic Category I equipment in the Table require type tests and/or analyses to demonstrate structural integrity and operability. The structural integrity of the seismic Category I valves, as well as other passive seismic Category I mechanical equipment, was demonstrated by analysis in accordance with American Society of Mechanical Engineers (ASME) Code Section III (Reference 3). The functionality of the subset of active safety-related valves under seismic loads was determined using the guidance of ASME QME-1-2007 (Reference 4).

Safety-related (Class 1E) electrical equipment in the Table was seismically qualified by type testing combined with an analysis in accordance with Institute of Electrical and Electronics

Engineers (IEEE) Standard 344-1987 (Reference 5). This equipment includes safety-related (Class 1E) field sensors and the safety-related active valve accessories such as electric actuators, position switches, pilot solenoid valves and electrical connector assemblies. The specific qualification method (i.e., type testing, analysis, or combination) used for each equipment in the Table is identified in Attachment A. Additional information about the methods used to qualify AP1000 safety-related equipment is provided in the Updated Final Safety Analysis Report (UFSAR) Appendix 3D (Reference 6). The EQ Reports (Reference 7) identified in Attachment A contain applicable test reports and associated documentation and conclude that the seismic Category I equipment can withstand seismic design basis dynamic loads without loss of structural integrity and safety function.

iii) The as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

An inspection (References 1 and 13) was conducted to confirm the satisfactory installation of the seismically qualified equipment in the Table. The inspection verified the equipment make/model/serial number, as-designed equipment mounting orientation, anchorage and clearances, and electrical and other interfaces. The documentation of the installed configuration of seismically qualified equipment includes photographs and/or sketches/drawings of equipment/mounting/interfaces.

As part of the seismic qualification program, consideration is given to the definition of the clearances needed around the equipment mounted in the plant to permit the equipment to move during a postulated seismic event without causing impact between adjacent pieces of safety-related equipment. When required, seismic testing by measuring the maximum dynamic relative displacement of the top and bottom of the equipment was performed. EQ Reports (Reference 7) identify the equipment mounting employed for qualification and establish interface requirements for assuring that subsequent in-plant installation does not degrade the established qualification. Interface requirements are defined based on the test configuration and other design requirements.

Attachment A identifies the EQRR (Reference 2) completed to verify that the as-built seismic Category I equipment listed in the Table, including anchorage, is seismically bounded by the tested or analyzed conditions, IEEE Standard 344-1987 (Reference 5), and NRC Regulatory Guide (RG) 1.100 (Reference 8).

i) A report exists and concludes that the Class 1E equipment identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

The harsh environment Class 1E equipment in the Table are qualified by type testing and/or analyses. Class 1E electrical equipment type testing was performed in accordance with IEEE Standard 323-1974 (Reference 9) and RG 1.89 (Reference 10) to meet the requirements of 10 CFR 50.49. Type testing of safety-related equipment meets the requirements of 10 CFR Part 50, Appendix A, General Design Criterion 4. Attachment A identifies the EQ program and specific qualification method for each safety-related mechanical or Class 1E electrical equipment located in a harsh environment. Additional information about the methods used to qualify AP1000 safety-related equipment is provided in the UFSAR Appendix 3D (Reference 6). EQ Reports (Reference 7) identified in Attachment A contains applicable test reports and

associated documentation and conclude that the equipment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function.

ii) A report exists and concludes that the as-built Class 1E equipment and the associated wiring, cables, and terminations identified in Table 2.2.1-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses.

An inspection (References 1 and 13) was conducted of the CNS to confirm the satisfactory installation of the Class 1E equipment in the Table. The inspection verified the equipment location, make/model/serial number, as-designed equipment mounting, wiring, cables, and terminations, and confirms that the environmental conditions for the zone (Attachment A) in which the equipment is mounted are bounded by the tested and/or analyzed conditions. It also documents the installed configuration with photographs or sketches/drawings of equipment mounting and connections. The EQRR (Reference 2) identified in Attachment A documents this inspection and concludes that the as-built harsh environment Class 1E equipment and the associated wiring, cables, and terminations are bounded by the qualified configuration and IEEE Standard 323-1974 (Reference 9).

i) A report exists and concludes that the non-Class 1E electrical penetrations identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of containment pressure boundary integrity.

The harsh environment non-Class 1E electrical penetrations in the Table are qualified by type testing and/or analyses. Non-Class 1E electrical penetration type testing is performed in accordance with IEEE Standard 323-1974 (Reference 9), IEEE Standard 317-1983 (Reference 11), and RG 1.89 (Reference 10) to meet the requirements of 10 CFR 50.49. Attachment A identifies the EQ program and specific qualification method for each non-Class 1E electrical penetration located in a harsh environment. Additional information about the methods used to qualify electrical penetrations supplied for the AP1000 is provided in the UFSAR Appendix 3D (Reference 6). EQ reports (Reference 7) identified in Attachment A contain applicable test reports and associated documentation and conclude that the electrical penetrations can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of containment pressure boundary integrity.

ii) A report exists and concludes that the as-built non-Class 1E electrical penetrations identified in Table 2.2.1-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses.

An inspection (References 1 and 13) was conducted of the CNS to confirm the satisfactory installation of the non-Class 1E electrical penetrations in the Table. The inspection verified the penetration location, make/model/serial number, and as-designed penetration mounting, and confirms that the environmental conditions for the zone (Attachment A) in which the penetration is mounted are bounded by the tested and/or analyzed conditions. It also documented the installed configuration with photographs or sketches/drawings of penetration mounting. The EQRR (Reference 2) identified in Attachment A documented this inspection and concluded that the as-built harsh environment non-Class 1E electrical penetrations are bounded by the qualified configuration and IEEE Standard 323-1974 (Reference 9), and IEEE Standard 317-1983 (Reference 11).

Together, these reports (References 2 and 7) provided evidence that the ITAAC Acceptance Criteria requirements are met:

- The seismic Category I equipment identified in Table 2.2.1-1 is located on the Nuclear Island;
- A report exists and concludes that the seismic Category I equipment can withstand seismic design basis dynamic loads without loss of structural integrity and safety function;
- The as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions;
- A report exists and concludes that the Class 1E equipment identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function;
- A report exists and concludes that the as-built Class 1E equipment and the associated wiring, cables, and terminations identified in Table 2.2.1-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses;
- A report exists and concludes that the non-Class 1E electrical penetrations identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of containment pressure boundary integrity; and
- A report exists and concludes that the as-built non-Class 1E electrical penetrations identified in Table 2.2.1-1 as being qualified for a harsh environment are bounded by type tests, analyses, or a combination of type tests and analyses.

References 2 and 7 are available for NRC inspection as part of Unit 4 ITAAC 2.2.01.05.i Completion Package (Reference 12).

### **ITAAC Finding Review**

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all ITAAC findings pertaining to the subject ITAAC and associated corrective actions. This finding review, which included now-consolidated ITAAC Indexes 99, 100, 101, 102, 105 and 106, found three closed Notices of Nonconformance (NON):

- 1) 99901412/2012-201-02 (closed) ML16357A725
- 2) 99901415/2012-201-01 (closed) ML15148A419
- 3) 99901415/2012-201-02 (closed) ML15148A419

### **ITAAC Completion Statement**

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.2.01.05.i was performed for VEGP Unit 4 and that the prescribed acceptance criteria are met.

Systems, structures, and components verified as part of this ITAAC are being maintained in their as-designed, ITAAC compliant condition in accordance with approved plant programs and procedures.

### **References (available for NRC inspection)**

1. ND-RA-001-014, "EQ ITAAC As-Built Walkdown ITAAC Guideline"
2. EQ As-Built Reconciliation Reports (EQRR) as identified in Attachment A for Unit 4
3. American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section III, "Rules for Construction of Nuclear Power Plant Components", 1998 Edition with 2000 Addenda
4. ASME QME-1-2007, "Qualification of Active Mechanical Equipment Used in Nuclear Power Plants", The American Society of Mechanical Engineers, June 2007
5. IEEE Standard 344-1987, "IEEE Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations"
6. Vogtle 3&4 Updated Final Safety Analysis Report Appendix 3D, "Methodology for Qualifying AP1000 Safety-Related Electrical and Mechanical Equipment"
7. Equipment Qualification (EQ) Reports as identified in Attachment A
8. Regulatory Guide 1.100, Rev. 2, "Seismic Qualification of Electric and Mechanical Equipment for Nuclear Power Plants"
9. IEEE Standard 323-1974, "IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations"
10. Regulatory Guide 1.89, Rev 1, "Environmental Qualification of Certain Electric Equipment Important to Safety for Nuclear Power Plants"
11. IEEE Standard 317-1983, "IEEE Standard for Electric Penetration Assemblies in Containment Structures for Nuclear Power Generating Stations"
12. 2.2.01.05.i-U4-CP-Rev0, "ITAAC Completion Package"
13. ND- RA-001-016, "EQ ITAAC As-built Installation Documentation Guideline," Version 1.0

**Attachment A**

System: Containment System

<b>Equipment Name <sup>+</sup></b>	<b>Tag No. <sup>+</sup></b>	<b>Seismic Cat. I <sup>+</sup></b>	<b>Class 1E/Qual. For Harsh Envir. <sup>+3</sup></b>	<b>Envir. Zone <sup>1</sup></b>	<b>Envir Qual Program <sup>2</sup></b>	<b>Type of Qual.</b>	<b>EQ Reports (Reference 7)</b>	<b>As-Built EQRR (Reference 2)</b>
Service Air Supply Outside Containment Isolation Valve	CAS-PL- V204	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-PV10-VBR-008 / SV4-PV10-VBR-007	2.2.01.05.i-U4- EQRR-PCD001
Service Air Supply Inside Containment Isolation Check Valve	CAS-PL- V205	Yes	-/-	N/A	N/A	Analysis	SV4-PV03-VBR-002 / SV4-PV03-VBR-001	2.2.01.05.i-U4- EQRR-PCD001
Instrument Air Supply Outside Containment Isolation Valve	CAS-PL- V014	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV10-VBR-004 / SV4-PV10-VBR-003	2.2.01.05.i-U4- EQRR-PCD001
Instrument Air Supply Inside Containment Isolation Check Valve	CAS-PL- V015	Yes	-/-	N/A	N/A	Analysis	SV4-PV02-VBR-016 / SV4-PV02-VBR-015	2.2.01.05.i-U4- EQRR-PCD001
Component Cooling Water System (CCS) Containment Isolation Motor-operated Valve (MOV) – Inlet Line Outside Reactor Containment (ORC)	CCS-PL- V200	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-006 / SV4-PV11-VBR-005	2.2.01.05.i-U4- EQRR-PCD001
CCS Containment Isolation Check Valve – Inlet Line Inside Reactor Containment (IRC)	CCS-PL- V201	Yes	-/-	N/A	N/A	Analysis	SV4-PV03-VBR-014 / SV4-PV03-VBR-013	2.2.01.05.i-U4- EQRR-PCD001

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/Qual. For Harsh Envir. <sup>+ 3</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
CCS Containment Isolation MOV – Outlet Line IRC	CCS-PL-V207	Yes	Yes/Yes	1	M * E	Type Testing & Analysis	SV4-PV11-VBR-006 / SV4-PV11-VBR-005	2.2.01.05.i-U4-EQRR-PCD001
CCS Containment Isolation MOV – Outlet Line ORC	CCS-PL-V208	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-006 / SV4-PV11-VBR-005	2.2.01.05.i-U4-EQRR-PCD001
CCS Containment Isolation Relief Valve – Outlet Line IRC	CCS-PL-V220	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-PV16-VBR-002 / SV4-PV16-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
Demineralized Water Supply Containment Isolation Valve ORC	DWS-PL-V244	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-002 / SV4-PV11-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
Demineralized Water Supply Containment Isolation Check Valve IRC	DWS-PL-V245	Yes	-/-	N/A	N/A	Analysis	SV4-PV02-VBR-016 / SV4-PV02-VBR-015	2.2.01.05.i-U4-EQRR-PCD001
Fuel Transfer Tube	FHS-FT-01	Yes	-/-	N/A	N/A	Analysis	SV4-FT01-S3R-001	2.2.01.05.i-U4-EQRR-PCD002
Fuel Transfer Tube Isolation Valve	FHS-PL-V001	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-FH06-VBR-002 / SV4-FH06-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
Fire Water Containment Supply Isolation Valve – Outside	FPS-PL-V050	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-002 / SV4-PV11-VBR-001	2.2.01.05.i-U4-EQRR-PCD001

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/Qual. For Harsh Envir. <sup>+3</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
Fire Water Containment Isolation Supply Check Valve – Inside	FPS-PL-V052	Yes	-/-	N/A	N/A	Analysis	SV4-PV03-VBR-014 / SV4-PV03-VBR-013	2.2.01.05.i-U4-EQRR-PCD001
Spent Fuel Pool Cooling System (SFS) Discharge Line Containment Isolation Check Valve – IRC	SFS-PL-V037	Yes	-/-	N/A	N/A	Analysis	SV4-PV03-VBR-002 / SV4-PV03-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
SFS Discharge Line Containment Isolation MOV – ORC	SFS-PL-V038	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-006 / SV4-PV11-VBR-005	2.2.01.05.i-U4-EQRR-PCD001
SFS Suction Line Containment Isolation MOV – IRC	SFS-PL-V034	Yes	Yes/Yes	1	M * E	Type Testing & Analysis	SV4-PV11-VBR-006 / SV4-PV11-VBR-005	2.2.01.05.i-U4-EQRR-PCD001
SFS Suction Line Containment Isolation MOV – ORC	SFS-PL-V035	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-006 / SV4-PV11-VBR-005	2.2.01.05.i-U4-EQRR-PCD001
SFS Suction Line Containment Isolation Relief Valve – IRC	SFS-PL-V067	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-PV16-VBR-002 / SV4-PV16-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
Containment Purge Inlet Containment Isolation Valve – ORC	VFS-PL-V003	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-004 / SV4-PV11-VBR-003	2.2.01.05.i-U4-EQRR-PCD001
Containment Purge Inlet Containment Isolation Valve – IRC	VFS-PL-V004	Yes	Yes/Yes	1	M * E	Type Testing & Analysis	SV4-PV11-VBR-004 / SV4-PV11-VBR-003	2.2.01.05.i-U4-EQRR-PCD001

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/Qual. For Harsh Envir. <sup>+ 3</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
Integrated Leak Rate Testing Vent Discharge Containment Isolation Valve – ORC	VFS-PL-V008	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-PV02-VBR-010 / SV4-PV02-VBR-009	2.2.01.05.i-U4-EQRR-PCD001
Containment Purge Discharge Containment Isolation Valve – IRC	VFS-PL-V009	Yes	Yes/Yes	1	M * E S	Type Testing & Analysis	SV4-PV11-VBR-004 / SV4-PV11-VBR-003	2.2.01.05.i-U4-EQRR-PCD001
Containment Purge Discharge Containment Isolation Valve – ORC	VFS-PL-V010	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-004 / SV4-PV11-VBR-003	2.2.01.05.i-U4-EQRR-PCD001
Vacuum Relief Containment Isolation A MOV– ORC	VFS-PL-V800A	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-006 / SV4-PV11-VBR-005	2.2.01.05.i-U4-EQRR-PCD001
Vacuum Relief Containment Isolation B MOV– ORC	VFS-PL-V800B	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-006 / SV4-PV11-VBR-005	2.2.01.05.i-U4-EQRR-PCD001
Vacuum Relief Containment Isolation Check Valve A – IRC	VFS-PL-V803A	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-PV18-VBR-002 / SV4-PV18-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
Vacuum Relief Containment Isolation Check Valve B – IRC	VFS-PL-V803B	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-PV18-VBR-002 / SV4-PV18-VBR-001	2.2.01.05.i-U4-EQRR-PCD001

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/Qual. For Harsh Envir. <sup>+ 3</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
Fan Coolers Return Containment Isolation Valve – IRC	VWS-PL-V082	Yes	Yes/Yes	1	M * E S	Type Testing & Analysis	SV4-PV11-VBR-004 / SV4-PV11-VBR-003	2.2.01.05.i-U4-EQRR-PCD001
Fan Coolers Return Containment Isolation Valve – ORC	VWS-PL-V086	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-004 / SV4-PV11-VBR-003	2.2.01.05.i-U4-EQRR-PCD001
Fan Coolers Return Containment Isolation Relief Valve – IRC	VWS-PL-V080	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-PV16-VBR-002 / SV4-PV16-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
Fan Coolers Supply Containment Isolation Valve – ORC	VWS-PL-V058	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV11-VBR-004 / SV4-PV11-VBR-003	2.2.01.05.i-U4-EQRR-PCD001
Fan Coolers Supply Containment Isolation Check Valve – IRC	VWS-PL-V062	Yes	-/-	N/A	N/A	Analysis	SV4-PV03-VBR-002 / SV4-PV03-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
Reactor Coolant Drain Tank (RCDT) Gas Outlet Containment Isolation Valve – IRC	WLS-PL-V067	Yes	Yes/Yes	1	M * E S	Type Testing & Analysis	SV4-PV14-VBR-002 / SV4-PV14-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
RCDT Gas Outlet Containment Isolation Valve – ORC	WLS-PL-V068	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV14-VBR-002 / SV4-PV14-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
Sump Discharge Containment Isolation Valve – IRC	WLS-PL-V055	Yes	Yes/Yes	1	M * E S	Type Testing & Analysis	SV4-PV10-VBR-006 / SV4-PV10-VBR-005	2.2.01.05.i-U4-EQRR-PCD001

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/Qual. For Harsh Envir. <sup>+ 3</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
Sump Discharge Containment Isolation Valve – ORC	WLS-PL-V057	Yes	Yes/No	N/A	N/A	Type Testing & Analysis	SV4-PV10-VBR-006 / SV4-PV10-VBR-005	2.2.01.05.i-U4-EQRR-PCD001
Sump Discharge Containment Isolation Relief Valve – IRC	WLS-PL-V058	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-PV16-VBR-002 / SV4-PV16-VBR-001	2.2.01.05.i-U4-EQRR-PCD001
Spare Penetration	CNS-PY-C01	Yes	-/-	N/A	N/A	Analysis	SV4-MV50-S3R-100 SV4-CNS-S3R-001	2.2.01.05.i-U4-EQRR-PCD002
Spare Penetration	CNS-PY-C02	Yes	-/-	N/A	N/A	Analysis	SV4-MV50-S3R-100 SV4-CNS-S3R-001	2.2.01.05.i-U4-EQRR-PCD002
Spare Penetration	CNS-PY-C03	Yes	-/-	N/A	N/A	Analysis	SV4-MV50-S3R-100 SV4-CNS-S3R-001	2.2.01.05.i-U4-EQRR-PCD002
Main Equipment Hatch	CNS-MY-Y01	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-MV50-VBR-002 / SV4-MV50-VBR-001 /	2.2.01.05.i-U4-EQRR-PCD002
Maintenance Hatch	CNS-MY-Y02	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-MV50-VBR-002 / SV4-MV50-VBR-001 /	2.2.01.05.i-U4-EQRR-PCD002
Upper Personnel Hatch	CNS-MY-Y03	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-MV50-VBR-002 / SV4-MV50-VBR-001 /	2.2.01.05.i-U4-EQRR-PCD002
Lower Personnel Hatch	CNS-MY-Y04	Yes	-/-	N/A	N/A	Type Testing & Analysis	SV4-MV50-VBR-002 / SV4-MV50-VBR-001 /	2.2.01.05.i-U4-EQRR-PCD002

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/Qual. For Harsh Envir. <sup>+3</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
Containment Vessel	CNS-MV-01	Yes	-/-	N/A	N/A	Analysis	SV4-MV50-S3R-100	2.2.01.05.i-U4-EQRR-PCD002
Electrical Penetration P03	DAS-EY-P03Z	Yes	No/Yes	7	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P01	ECS-EY-P01X	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P02	ECS-EY-P02X	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P06	ECS-EY-P06Y	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P07	ECS-PY-P07X	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P09	ECS-EY-P09W	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-002 / SV4-EY01-VBR-001	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P10	ECS-EY-P10W	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-002 / SV4-EY01-VBR-001	2.2.01.05.i-U4-EQRR-PCD003

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/Qual. For Harsh Envir. <sup>+ 3</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
Electrical Penetration P11	IDSA-EY-P11Z	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Electrical Penetration P12	IDSA-EY-P12Y	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Electrical Penetration P13	IDSA-EY-P13Y	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Electrical Penetration P14	IDSD-EY-P14Z	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Electrical Penetration P15	IDSD-EY-P15Y	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Electrical Penetration P16	IDSD-EY-P16Y	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Electrical Penetration P17	ECS-EY-P17X	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/Qual. For Harsh Envir. <sup>+3</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
Electrical Penetration P18	ECS-EY-P18X	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P19	ECS-EY-P19Z	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P20	ECS-EY-P20Z	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P21	EDS-EY-P21Z	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P22	ECS-EY-P22X	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P23	ECS-EY-P23X	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P24	ECS-EY-P24	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD003

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/Qual. For Harsh Envir. <sup>+3</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
Electrical Penetration P25	ECS-EY-P25W	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-002 / SV4-EY01-VBR-001	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P26	ECS-EY-P26W	Yes	No/Yes	4	E * S	Type Testing & Analysis	SV4-EY01-VBR-002 / SV4-EY01-VBR-001	2.2.01.05.i-U4-EQRR-PCD003
Electrical Penetration P27	IDSC-EY-P27Z	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Electrical Penetration P28	IDSC-EY-P28Y	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Electrical Penetration P29	IDSC-EY-P29Y	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Electrical Penetration P30	IDSB-EY-P30Z	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Electrical Penetration P31	IDSB-EY-P31Y	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004

Equipment Name <sup>+</sup>	Tag No. <sup>+</sup>	Seismic Cat. I <sup>+</sup>	Class 1E/Qual. For Harsh Envir. <sup>+ 3</sup>	Envir. Zone <sup>1</sup>	Envir Qual Program <sup>2</sup>	Type of Qual.	EQ Reports (Reference 7)	As-Built EQRR (Reference 2)
Electrical Penetration P32	IDSB-EY-P32Y	Yes	Yes/Yes	2	E * S	Type Testing & Analysis	SV4-EY01-VBR-004 / SV4-EY01-VBR-003	2.2.01.05.i-U4-EQRR-PCD004
Instrument Penetration P46	PCS-PY-C01	Yes	-/-	N/A	N/A	Analysis	SV4-MV50-S3R-100 SV4-CNS-S3R-001	2.2.01.05.i-U4-EQRR-PCD002
Instrument Penetration P47	PCS-PY-C02	Yes	-/-	N/A	N/A	Analysis	SV4-MV50-S3R-100 SV4-CNS-S3R-001	2.2.01.05.i-U4-EQRR-PCD002
Instrument Penetration P48	PCS-PY-C03	Yes	-/-	N/A	N/A	Analysis	SV4-MV50-S3R-100 SV4-CNS-S3R-001	2.2.01.05.i-U4-EQRR-PCD002
Instrument Penetration P49	PCS-PY-C04	Yes	-/-	N/A	N/A	Analysis	SV4-MV50-S3R-100 SV4-CNS-S3R-001	2.2.01.05.i-U4-EQRR-PCD002

Notes:

<sup>+</sup> Excerpt from COL Appendix C Table 2.2.1-1

1. See Table 3D.5-1 of UFSAR
2. E = Electrical Equipment Program (limit switch and the motor operator, squib operator, solenoid operator)  
M = Mechanical Equipment Program (valve)  
S = Qualified for submergence or operation with spray  
\* = Harsh Environment
3. Dash (-) indicates not applicable